Preparing Researchers to Participate in Collaborative Research

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Abstract: This symposium offers new insights into how graduate programs can better prepare researchers to work collaboratively with practice and community partners toward educational equity and improvement. Each presentation shares key takeaways from a recent convening in Semiahmoo, Washington that focused on this topic, hosted by the National Center for Research in Policy and Practice (NCRPP). The aim of this session is to (a) share the results of the Semiahmoo workshop on expanding the use of collaborative research as a methodology across the learning sciences and colleges of education; and (b) invite the broader learning sciences community to participate in advancing changes to graduate education that are needed to make collaborative research a core methodology for the field. We summarize the role of collaborative research in achieving impact locally, sustainably, and at scale, as well as the role of schools of education in preparing researchers to engage in collaborative research.

Keywords: collaborative research, graduate education, partnership, methods, networks

Overall focus of the symposium

This symposium offers new insights into how graduate programs can better prepare researchers to work collaboratively with practice and community partners toward educational equity, improvement, and transformation. Each presentation shares key takeaways from a recent convening in Semiahmoo, Washington that focused on this topic, hosted by the National Center for Research in Policy and Practice (NCRPP). The workshop included deans, faculty members, and graduate students from six schools of education with several long-term partnerships with practice and community organizations; individual researchers with expertise in collaborative research; practice and community partners; and funders. Together, we surfaced specific aspects of graduate education needed to prepare researchers to participate effectively and equitably in various approaches to collaborative research.

The location of the convening in Semiahmoo, Washington, as the land of the Semiahmoo Nation, intentionally grounded our aims in advancing collaborative research centered in equity, justice, and recognition for the importance of historical knowledge and perspectives in locally-focused work. We held space for multiple epistemologies and forms of collaboration grounded in equity while at the same time uncovering aspects of collaborative research that could be scaled to improve preparation for this work for interested students in graduate programs across the country.

The aim of this symposium is to (a) share the results of the Semiahmoo workshop on expanding the use of collaborative research as a methodology across the learning sciences and colleges of education; and (b) invite the broader learning sciences community to participate in advancing changes to graduate education that are needed to make collaborative research a core methodology for the field.

We introduce this symposium by summarizing the role of collaborative research in achieving impact locally, sustainably, and at scale, as well as the role of schools of education in preparing researchers to engage in collaborative research. Each of the four presentations, led by members of five different universities, then synthesizes workshop participants' contributions focused on: (1) the dispositions, knowledge and skills, and experiences that researchers need to participate effectively in collaborative research; (2) strategies to embed collaborative research preparation in graduate programs; (3) building institutional capacity for collaborative

research; and (4) building networks to sustain and scale collaborative research practices beyond an individual institution.

The session will open with four short presentations that report the takeaways from the convening, based on documentation and content analysis of each workshop session. We will follow this with discussant remarks and questions that critique and extend the perspectives presented. We will then move into facilitated break-out groups for critique and contributions related to key takeaways, with participants invited to extend the findings from the workshop. Our goal is to expand the network of scholars working in collaborative research.

Major issues addressed and points illustrated by the collective work

Because collaborative research is focused on local problems of practice in partnership with stakeholders, it is uniquely situated to attend to partners' social, cultural, political and historical perspectives in designing strategies to advance educational equity, improvement, and transformation. At the same time, there is a need to scale core principles and practices of collaborative research across local contexts to ensure that researchers engage effectively and equitably with practice and community partners. In other words, the enactment of collaborative research must be sensitive to local needs, but core principles need to be shared field-wide.

Because traditional research is geared more toward contributions to knowledge, it does not always impact practice, especially in sustainable ways. Collaborative research, on the other hand, is designed to address issues of practice through multiple perspectives and forms of knowledge, leading to changes in practice and policy that "do real work" for and with practice and community partners, and thus are more likely to be sustained. Graduate schools of education importantly prepare students for traditional research methods, but often lack the coursework, mentoring, apprenticeship experiences, funding support, and institutional capacity that students need to participate effectively in collaborative research methods.

This symposium offers new avenues for changes to graduate programs that can better prepare researchers who aim to work collaboratively with practice and community partners toward sustainable educational change.

How the collective presentations contribute towards the issues or points raised

Together, the symposium presentations share multiple aspects of systemically working to advance collaborative research. Improvements to graduate preparation will require attention to each area presented here—cultivating key dispositions, knowledge and skills, and experiences; offering course pathways and mentoring; building institutional capacity; and expanding participation through connections to networks. At the same time, each aspect requires focused attention in order to develop and scale these aims.

The presentations further bring together advanced and junior scholars, including graduate students, across multiple universities as we begin to create an ecosystem for collaborative research. Symposium attendees interested in participating in these efforts to improve preparation for collaborative research can connect with the growing national network of junior and advanced scholars that emerged from the Semiahmoo workshop.

Significance of the contributions

While the primary purpose of education research is to contribute to educational transformation, educators have reported that traditional methods of conducting research and disseminating findings are limited in their accessibility, timeliness, and relevance to pressing problems of practice (Penuel et al., 2016). In contrast to traditional practices that do research *on* or *for* others, collaborative research builds on the tradition of engaged work *with* partners in real settings that is a hallmark of learning sciences research.

A shift to viewing research as something done *with* those most impacted by it is at the heart of a growing interest in collaborative research in education (Philip, Bang, & Jackson, 2018). Collaborative research, as we present it here, can take a variety of forms that include what are commonly considered research-practice partnerships (RPPs), research alliances, networked improvement communities (NICs), design-based research, and community-based collaborations. These partnerships in turn can take a variety of forms and approaches. "Research partners" based at universities or other research organizations collaborate with "practice partners" in state education departments, school districts, schools, social service agencies, libraries, or museums, or with "community partners" in community organizations or local communities. Most centrally, partnership members jointly decide to focus on a problem of interest to the practice or community partner, and decide on the working relationship and research methods best suited to address the problem.

Many future—and current—researchers aren't aware of the forms that such partnerships can take, or how to go about forming, funding, pursuing, and sustaining a partnership. Right now, this work is happening in pockets, with some schools of education offering more extensive opportunities for interested students. Some are lucky

enough to apprentice with faculty members who have established partnerships. However, apprenticing interested students to work in this way can be taxing on the relatively few faculty members with partnerships in place, and more importantly, on the local practice or community partners.

We therefore need sustained efforts to expand this work to more graduate programs and geographic areas, with special consideration for the potential to work with practice and community partners who have not been offered opportunities to benefit from participating in collaborative research. As collaborative research practices grow and show promise in education, it is important that we draw on increasing knowledge about them to better prepare researchers to work effectively and equitably with practice and community partners.

Offering learning opportunities to support graduate students in collaborate research further offers opportunities at the institutional level to move beyond the traditional role of universities to produce and transfer knowledge toward models for researchers and practice or community partners to engage in expansive learning together (Kerosuo & Toiviainen, 2011). This can shift institutional perspectives of what's important in producing and sharing knowledge to one that deeply considers "by, how, and for what and whom" knowledge is created and shared (Philip et al., 2018). In this way, programs that include preparation for collaborative research can contribute to renegotiating the relationship of higher education with broader society toward one of public engagement.

Dispositions, knowledge and skills, and experiences that researchers need to participate in collaborative research

Kristen L. Davidson and Robbin Riedy, University of Colorado Boulder

We asked Semiahmoo workshop participants to first share the dispositions—that is, the habits of mind, characteristics, or temperaments—that are most conducive to working in partnerships. While some people may be inclined toward these dispositions, participants felt they could be cultivated or deepened among those who are interested in collaborative research, current and future researchers alike. Importantly, these dispositions were informed by practice and community partners' perspectives (at the workshop and beyond) regarding what they report needing from researchers in order to advance mutual aims of educational equity and improvement.

To work collaboratively with practice and community partners, researchers need to own a shared responsibility for outcomes—especially with regard to students' lives—by being invested in the work and persevering through challenges. Practice partners especially emphasized this core aim, and noted that researchers' commitments to making a difference in students' lives were key to building trust and working jointly together. Just as the focal areas of partnerships often attend to advancing equity in education, researchers need to be equity-focused in their approach to working side-by-side with partners, with intercultural sensibilities and respect. This can involve balancing the workload among partners, respecting differing demands, and valuing different types of knowledge and experiences that research and practice partners bring to the problem at hand. Given research and practice partners' differing priorities and timelines, researchers need to be continually open-minded, flexible, and understanding about partners' changing needs and contexts. In order to counter historical imbalances of power and status among research and practice roles, it is especially important that researchers are humble, self-aware, reflective, and intentional in their own presence and actions, positioning themselves as active and deep listeners and empathetic sources of support.

In addition to these dispositions, participants named specific knowledge and skills that researchers need to develop for partnership work. Many noted the need for graduate students to be involved from the beginning of the formation of a partnership in order to experience the process of forming initial relationships and jointly deciding on partnership aims. At the beginning stages and beyond, researchers need to develop skills in how to enter spaces with potential and current partners, including learning about the partners' organizational or community context, having a sense of respectful norms of interaction, and developing strong communication and facilitation skills. It is important that graduate students are able to build trusting relationships with partners, and that practice and community partners are able to trust graduate students in their work together. As the partnership proceeds, graduate students need to develop skills to navigate challenges that may arise due to shifts in timelines and aims, turnover, and more. Students can learn from tools and routines that help to negotiate partners' roles and balance the work. At a basic level, researchers need project management skills—such as securing funding and other resources, budgeting, setting goals and establishing routines, managing data, navigating different timelines, managing teams, and so on—that often are not part of graduate preparation.

The research skills that students develop in graduate programs are also valuable to partnership work. Because research partners often are expected to bring expertise in research methods, they should be ready to co-develop a theory or plan of action with their partners, specify plans for collaboration, and shepherd the research process. Throughout the process, partnership members need collaborative problem solving and sensemaking skills in order to co-create new knowledge and design new solutions based on the partnership's work on the problem of

focus. In synthesizing findings from a project, research partners should be sensitive to the potential implications of those findings, and have clear, collaborative processes among partnership members for engaging in the interpretation of findings and for preparing to share them. Researchers then need skills to be able to share findings through multiple platforms that are accessible, relevant, and useful for their practice or community partners and beyond. For example, partners might present at conferences together, produce reports or briefs, create videos, blogs, or other multimedia presentations, co-develop curricula or professional development, and so on (Farrell et al., 2018).

As the partnership matures, researchers need particular types of knowledge and skills to sustain partnerships through multiple strong relationships, ongoing funding and resources, support from organizational leadership (on both sides of the partnership), and continued support for implementation of solutions developed by the partnership.

Lastly, participants described the kinds of experiences that researchers need to develop these dispositions, knowledge and skills, especially in terms of opportunities to actively practice these through coursework, mentoring, and apprenticing with experienced faculty members, which the next presentation more fully describes. The dispositions, knowledge, and skills outlined here offer new aims for the content and structure of graduate programs that can better prepare students—and further develop faculty members—for collaborative research approaches that can contribute to the kinds of educational change that initially motivate many students to pursue doctoral training.

Embedding collaborative research preparation in graduate programs

Caitlin C. Farrell, University of Colorado Boulder and Jennifer Russell, University of Pittsburgh

Graduate programs serve as an important training ground for people who want to engage in collaborative research efforts. In addition to developing expertise in research methods and specific content areas, graduate students need intentional learning opportunities to develop competencies in building relationships, co-developing a research agenda that meets local needs, and sensemaking around findings. However, graduate programs in schools of education often are criticized as resistant to change. Those programs that do have initiatives in place to support collaborative research are few and far between, without a shared understanding of how to best embed collaborative research preparation in graduate programs.

Background

There are key characteristics of effective learning opportunities to support graduate students in collaborative research preparation. First, students should have opportunities to engage in the theoretical and historical traditions of collaborative models of research. Graduate coursework can provide foundational experiences where students are exposed to core principles of collaborative research, such as what it means to ensure mutual benefit for partners and researchers, that create mental models and schema which are a resource when students later engage in apprenticed partnership work.

Second, learning about collaborative research should be active and embedded in partnership work. Students need opportunities to directly design or try out collaborative research strategies. For instance, within the context of a partnership, graduate students may engage with co-developed research questions, successful funding proposals, examples of data displays and guides for moderating collaborate sensemaking around findings. This approach moves away from traditional learning models that are entirely lecture based toward embedded, contextualized practice.

Third, learning about collaborative research practice involves coaching, expert support, reflection, and focused reflection directly on graduate students' individual needs. Programs require built-in time for students to think about, receive input on, and make changes to their collaborative research practices. Feedback and reflection help students to thoughtfully move toward the expert visions of collaborative research practice. Further, close mentoring ensures that graduate students engage with practice and community partners in ways that align with their expectations of the partnership.

All of these learning opportunities need to be offered systematically in graduate programs, so that all students can access them, and not only those who have a certain advisor. Therefore, any learning opportunities need to consider the potential barriers or supports necessary to support equitable access and participation.

Strategies and examples

At the Semiahmoo workshop, participants envisioned three broad strategies that graduate programs could adopt that embody these learning principles. In some circumstances, a program could design a new program or practice,

while in other cases, it may involve altering or adjusting practices already in place. These strategies include: foundational coursework; apprenticeship experiences; and mentoring structures and practices.

Coursework provides a focused time to build foundational knowledge for collaborative research. A collaborative research course can be a complement to existing methods sequences in graduate education research preparation programs, focusing on the core principles of these approaches, their theoretical traditions, and practical methods for engaging in productive partnerships. Alternatively, coursework can be organized as stackable modules or micro-credentials composed of discrete learning units focused on issues such as: project management skills; communicating with multiple research audiences; and building relationships and entering spaces.

Another consideration for graduate programs is ensuring apprenticeship experiences in which graduate students can learn how to conduct collaborative research by doing it with more experienced faculty members and practice or community partners. These experiences typically happen as students work with faculty on their research projects. However, relying solely on this model can have limitations. For example, students may not get opportunities to see the early phases of partnership development if they enter a project that represents a long-term collaborative arrangement. In addition, these opportunities may be limited at a given institution.

Ideally, students would get opportunities to engage in collaborative projects from start to finish, with strong mentoring structures and practices in place. Some graduate programs have created innovative mechanisms to enact this kind of mentored engagement in collaborative research by developing durable partnerships with sites of practice, such as school districts, and then creating a mechanism for students to propose, negotiate, and engage in a bounded project from start to finish, under the mentorship of faculty and practice partners. Mentorship is critical in this model when students are taking greater ownership of project; yet creating effective mentorship structures can be challenging to coordinate given that these are not faculty projects. Ideally there would be dedicated mentors from both the graduate program and site of practice to provide students with ongoing feedback as they engage in their collaborative projects, while attending to balance in roles and workload (Ghiso, Campano, Schwab, Asaah, & Rusoja, 2019).

In this presentation, we offer these considerations and strategies with examples of ongoing and developing work in several schools of education. In the discussion, we will invite session attendees to share further examples of structures in place or in development in their own institutions, and to connect to a growing network of scholars who are shifting graduate preparation in these ways.

Building institutional capacity for collaborative research
Barry Fishman, University of Michigan

"Public engagement" is frequently listed as a high priority for universities, especially in an age where the U.S. public has begun to question the value of higher education. At the Semiahmoo workshop, we proposed that collaborative research can serve as a powerful vehicle for renegotiating the relationship of higher education to broader society. Schools, colleges, and departments of education are natural places for innovation in collaborative research. Much scholarship and professional training in education is, after all, dependent on maintaining strong relationships with K-12 organizations. If schools of education have good reason to focus on the development of collaborative research *internally*, they also have good reason to focus *externally* on the rest of the institutions and communities where they live. Many universities have multiple points of contact with the publics they serve, or the communities where they are located.

The dominant model of scholarship in higher education—and also in schools of education—is defined by singly-authored research studies in which scholars are rewarded for the *specificity* of their focus. "High quality" research is designed to reduce variation and noise in order to isolate variables of interest. Research approaches featured in the learning sciences, including design-based research, have worked against this model by emphasizing scholarship conducted in real-world contexts, especially classrooms and other common settings for learning. But even in design-based research, sustainability and scalability can be limited by a range of factors, especially when the genesis of the research comes more from the research side of the partnership than from the practice side (Penuel, Fishman, Cheng, & Sabelli, 2011). Collaborative research is an opportunity to change this equation, though accomplishing this means overcoming a number of institutional constraints.

The *infrastructures* that shape higher education are a key barrier to the growth of collaborative research. We use the term "infrastructure" in the way that Susan Leigh Star used it; to denote structures and systems that are embedded, transparent, linked with conventions of practice, and embodied in standards and conventions (Star & Ruhleder, 1996). Infrastructures in research institutions that can present constraints to advancing collaborative research include things such as: tenure and promotion norms, funding opportunities, publication norms, student

recruitment, and graduation requirements. Supporting collaborative research within schools of education requires changes in these kinds of structures.

For instance, institution leaders might shift to valuing multiple types of research products and recognize that the time it takes to develop partnerships can result in reduced pre-tenure publication rates in comparison to more traditional forms of scholarship. Some institutions, including the University of Michigan, have moved to establish units or organizations that coordinate partnerships between community organizations and a range of researchers across campus, helping to coordinate and sustain collaborative partnerships and enabling a greater range of researchers to engage productively. We encouraged workshop participants to work on addressing capacity at their own institutions with their Provost, other units on their campus with natural connections to the public (e.g., social work, public health), their research offices, outreach organizations, and of course, their existing off-campus partners and collaborators.

This presentation will share specific strategies toward institutional change that support collaborative research and allow time in the discussion for attendees to consider the barriers and supports to these shifts specific to their own institutional contexts.

Networks to build field capacity for collaborative research

Adam Bell, University of Washington, Carlos Sandoval, University of California Irvine, Chris Wegemer, University of California Irvine, and Tiffany Clark, University of Colorado Boulder

In addition to capacity building for collaborative research within institutions, there is an important potential to leverage and build field capacity across institutional settings. Drawing from successes in the LIFE network for junior scholars in STEM education, one aim of the convening was to establish a cross-institutional network of emerging scholars that could facilitate the professional success of graduate students and postdoctoral researchers. In this presentation, we share the reasoning behind a network structure to advance collaborative research as well as the aims and practices of the emerging scholars network that we have established.

How networks can build field capacity

Networks can provide increased access to material, ideational, and relational resources that may be limited in graduate students' and postdoctoral scholars' home institutions. Because social capital is embedded in relationships (Lin, 2000), increased socialization *across* institutions can enable, graduate students are able to engage in "processes through which individuals gain the knowledge, skills, and values necessary for successful entry into a professional career" (Weidman, Twale, & Stein, 2001, p. 5)—in this case, a profession based in the relatively new field of collaborative research.

Graduate students' increased involvement in professional development networks, national organizations, and institutional practices positively influences their socialization into professional roles of scholarship and research (Gardner & Barnes, 2007). Opportunities to collectively share problems of practice can help members draw on the distributed expertise across institutions and apply skills to local contexts alongside a broader domain of practice (Corley, Boardman, & Bozeman, 2006). Relational development across a network promotes a learning environment that supports alternative forms of training by centering core principles of collaborative research that may not be emphasized in traditional academic approaches (e.g., doing research *with*, rather than *on*, communities). Moreover, network relationships contribute directly to graduate students' senses of relational agency and belonging within their domains of practice (Pyhältö & Keskinen, 2012). Professional development opportunities organized by the network can target skills that emerging scholars may not otherwise access. Graduate students and postdoctoral researchers have begun to organize a network and design activities to fulfill these aspirations.

A collaborative research network for graduate students and postdoctoral scholars can provide increased learning for emerging scholars across institutions by enabling participants to learn across institutions and broadening access to people, ideas, and other resources. The network can expand the social capital of emerging scholars by providing opportunities to interact with more experienced researchers, educators, and community members. These experiences elevate the work of emerging scholars, and can provide leadership opportunities for participants as the network grows and becomes more recognized. Additionally, an early career network serves as an organizational structure that can seek funding for network activities to support a broader reach of scholars (e.g., in-person convening, speaker series). During dedicated time at the Semiahmoo meeting, graduate students and postdoctoral scholars developed a cross-institutional network to support their collaborative research experiences.

Current activities and future plans for the network

The group established routines for a monthly meeting for all collaborative research-focused graduate students and postdoctoral scholars from the six core institutions represented at the conference (including those not present at the conference) and weekly meetings for a smaller visioning committee. In addition to norms, roles, and responsibilities, five goals of the network were identified: (1) To build a community of emergent collaborative research scholars and practitioners who support one another in their personal and professional endeavors; (2) To surface career opportunities for emergent collaborative research scholars and practitioners, including networking and sharing our work with senior scholars, practitioners, and the public; (3) To build a repository of resources around engagement in collaborative research work for emergent scholars and practitioners; (4) To provide opportunities for collaboration among emergent collaborative research scholars and practitioners; (5) To build a network of scholars that are committed to and enact anti-racist, equitable and transformative community-driven partnerships. These goals reflected the personal values and professional resources that graduate students believed would facilitate their success as collaborative researchers.

Subsequent digital meetings refined the activities and purpose of the network, which currently consists of about three dozen junior scholars. Collectively, the group created and refined a logic model to structure collaborative activities. Three emergent sub-groups formed to take the lead on specific tasks on behalf of the collective. First, a design politic group conceptualized a foundation for the network's shared intellectual work by making values and principles explicit; importantly, this included establishing the meaning of partnerships in education in relation to justice-oriented theories and systems of oppression. This process opened up possibilities for "remediating normative axiological assumptions" (Bang, Faber, Gurneau, Marin, & Soto, 2015, p. 3) about what is valued in partnership research projects. By establishing a design politic, the network participants will continue to grow their understanding of the dispositions, knowledge, and skills, and experiences required for building impactful partnerships. This will support the development of innovative and transformative practices.

Second, a professional development group organized several activities aimed to facilitate future professional successes of its members. This involved creating processes to share job opportunities across institutions, organizing a digital symposium where graduate students could share their work, and collecting topics of interest across all members to facilitate collaboration on publications. In the future, this will increasingly include opportunities to connect with (and learn from) established collaborative research scholars, potentially facilitating mentorship relationships.

Third, a community-building group planned activities for the group to interact, including organizing a meetup session at future professional meetings for graduate students interested in collaborative research and setting up a system for graduate students to share their planned presentations at conferences so others could attend. These activities represent an organizational expression of what graduate students would like to see in their own collaborative research experiences. This session will offer an opportunity for a group of interested junior scholars to attend and grow this network among scholars in the learning sciences.

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